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A new fungus of the swamp cedar

HOWARD J. BANKER

(WITH PLATE 24)

During the past year Mr. W. H. Ballou has discovered a new and interesting fungus which appears to be very destructive to the swamp cedar, *Chamaecyparis thyoides* (L.) B.S.P., of the New Jersey coast. The fungus is parasitic on the cedar and as yet appears to be confined to that species. Its destructive effects on the forest are described and well illustrated in an article in the *Scientific American* for December 19, 1908.

Mr. Ballou's observations of the work of this fungus have been confined to the region about Forked River, Ocean County, New Jersey, where it seems to have fully established its work of destruction. It is desirable that observations be made as soon as possible throughout the range of this cedar that the origin and progress of the disease may be determined. The plant is likely to escape notice without diligent search. The sporophores are borne high on the tree close to or in the canopy, and from their position, size, coloring, and their tendency to fall away from the deadened wood, they are not readily detected.

I take pleasure in dedicating the species to the discoverer whose persistent work on the swamp cedar has led to the detection of this destructive fungus.

***Steccherinum Ballouii* sp. nov.**

Plant parasitic, perennial, pileate; pileus campanulate to subdimidiate, more or less imbricate, sessile, decurrent on a vertical substratum to pendent from a horizontal substratum, easily separable, 1-4 cm. long, 1-5 cm. wide, often confluent laterally to 10 cm.; surface sulcate-zonate, radiately subrugose, somewhat scrobiculate, sometimes velutinous on younger and more protected parts, often licheniferous on the older parts, dark olive-brown when fresh, drying to gray-brown on older parts, becoming light seal-brown on younger portions toward margin; margin obtuse,

somewhat lobed, seal-brown extending around quite to the hymenial side ; substance thin, 1–2 mm., of two layers, the upper harder, somewhat brittle, dark brown, the lower softer, light brown ; hyphae of upper portion subrigid, thick-walled, dark-colored, more or less interwoven, having numerous globular guttulate bodies massed among the hyphae, single hypha 3–4 μ wide ; hyphae of lower portion thin-walled, subhyaline, more or less parallel, without globular bodies, but with numerous granules scattered among them, single hypha 3–4 μ wide ; hymenium colliculose, subfarinaeous under a lens, golden yellow when fresh, fading in drying to a light buff or pale cream-colored ; teeth various, coarse, subterete to difform, confluent, papilloid to elongate, usually obtuse, tips sometimes brownish, 1–5 mm. long, 0.5–1 mm. wide, irregularly distributed ; spores hyaline, broadly elliptical to subglobose, 7–7.2 μ by 5.5–6.5 μ wide ; taste mild, slightly bitter, suggesting old hickory nuts ; odor slight, resembling the substratum. [PLATE 24.]

On living *Chamaecyparis thyoides* (L.) B.S.P. at Forked River, Ocean County, New Jersey, *W. H. Ballou*, April 6, 1908. Type specimen in the writer's herbarium.

The plant belongs to the family Hydnaceae, which possesses but few parasitic forms. The only other species positively known to be strictly parasitic is *Echinodontium tinctorium* Ell. & Ev., which also attacks species of the Pinaceae on the Pacific coast. The two fungi possess some strikingly similar characteristics, but it is doubtful if they are congeneric. Both approach the tough woody Polyporaceae more closely than any other of the Hydnaceae and would be readily mistaken for members of that family on casual observation. The present plant suggests especially the genus *Coriolus* and except for Hydnaceous hymenial surface would appear to have closer affinities with this genus than with any of those now included in the Hydnaceae. This statement, however, may be made of two or three other species heretofore referred to the genus *Steccherinum*. It seems best, therefore, to refer this new species for the present to this latter genus.

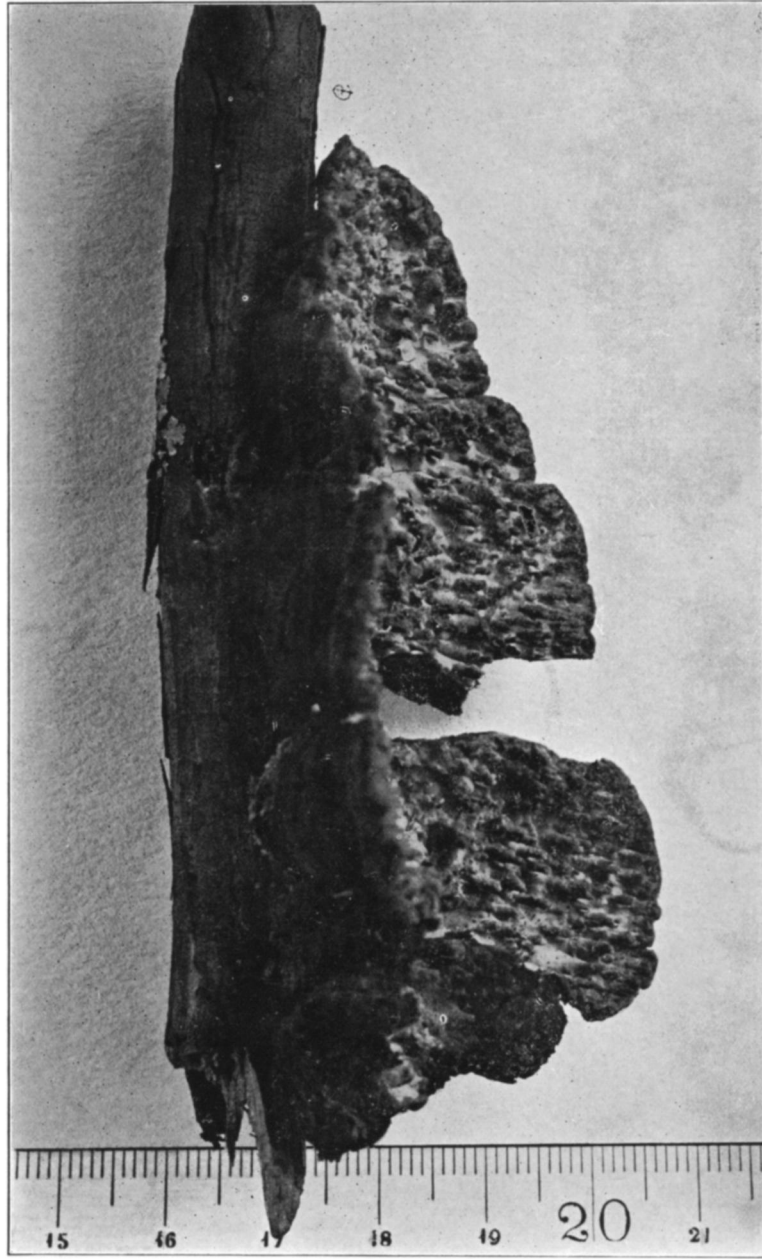
There has long been a doubt in the writer's mind whether the families of the Agaricales, especially the Thelephoraceae, Hydnaceae, and Polyporaceae, are not distinguished by a very artificial

characteristic in the form of the hymenial surface. The natural lines of cleavage appear in many instances to be at right angles to the present system and to be determined by histological rather than morphological characters.

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Explanation of plate 24

The figure shows one of the plants pendent from a horizontal branch. The base of the branch is to the left. The part of the pileus toward the observer is slightly out of focus in order to bring the teeth of the opposite under side sharply into view. Magnified 1.4 $\times$. The photograph was made by one of my pupils, Paul Collins.



STECCHERINUM BALLOUII Banker